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Jan. 4, 2006 Date  
Christopher Balzan Name

Atty. Dkt.: HRL/010-03

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of: Keyvan Sayyah )  
Entitled: FREQUENCY TUNING OF ) Group Art Unit: 2883  
PHOTONIC OSCILLATOR USING AMPLIFIER ) Examiner: Joanne H. Kim  
BIAS VOLTAGE )  
Serial No.: 10/663,368 )  
Filing Date: September 16, 2003 )

**AFFIRMATION OF ELECTION OF CLAIMS 15-38 AND  
RESPONSE TO EXAMINER'S REASON FOR ALLOWANCE**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

Applicant kindly acknowledges the Notice of Allowance.  
Please find enclosed the issue fee and publication fee.

Affirmation of Election of Claims 15-38

and of Examiner's Amendment

In response applicant hereby affirms the election of claims 15-38, in a telephone conversation between Examiner Kaven Kianni and attorney Christopher Balzan. Attorney Christopher Balzan, elected claims 15-38 with traverse, without regard to whether the claims are independent and distinct, but instead on the grounds

that the search and examination of the entire application can be made without serious burden.

Applicant hereby affirms authorization for Examiner's amendment to cancel non-elected claims to facilitate allowance of the case.

Response to Examiner's Reason for Allowance

In response to the Examiner's reasons for allowance, Applicant respectfully points out that Claims 15-38 are not in Jepson format, and were not set forth or intended to be "improvement" claims under 37 C.F.R. 1.75(e).

Claim 15 is patentable over Yao et al. and the other prior art, because the claim as a whole, including all limitations, is nonobvious over Yao et al. and the other prior art, taken alone or in combination. Claim 15 is patentable because it includes: a light source, an optical modulator coupled to the light source, at least one lightwave delay path coupled to the optical modulator, at least one photodetector coupled to the at least one lightwave delay path, a first amplifier coupled between the photodetector and the optical modulator, a bandpass filter coupled between the first amplifier and the optical modulator, and a control circuit coupled to the first amplifier constructed so as to be capable of adjusting a bias power to the first amplifier to shift. Dependent Claims 16-29 are each patentable over Yao et al. and the other prior art, taken in alone or in combination, because the respective claim as a whole contains further patentable limitation(s).

Claim 30 is patentable over Yao et al. and the other prior

art, because the claim as a whole, including all limitations, is nonobvious over Yao et al. and the other prior art, taken alone or in combination. Claim 30 is patentable because it includes: a laser, an optical modulator coupled to the laser, a lightwave delay path coupled to the optical modulator having a short loop lightwave delay path and a long loop lightwave delay path coupled in parallel with the short loop lightwave delay path, a first amplifier coupled between the photodetector and the optical modulator, a bandpass filter coupled between the first amplifier and the optical modulator, a bandpass filter coupled between the first amplifier and the optical modulator; and a means for shifting a frequency of an output of the photonic oscillator comprising a bias power adjusting means allowing adjustment of the bias power to the first amplifier. Dependent Claims 31-35 are each patentable over Yao et al. and the other prior art, taken in alone or in combination, because the respective claim as a whole contains further patentable limitation(s).

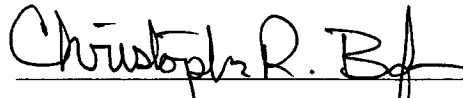
Claim 36 is patentable over Yao et al. and the other prior art, because the claim as a whole, including all limitations, is nonobvious over Yao et al. and the other prior art, taken alone or in combination. Claim 36 is patentable because it includes: a laser; an optical modulator coupled to the laser; a lightwave delay path coupled to the optical modulator, which has a short loop lightwave delay path, a long loop lightwave delay path coupled in parallel with the short loop lightwave delay path, an optical splitter coupling the long and short loop lightwave delay paths to the optical modulator, a photodetector coupled to each of the long and short loop lightwave delay paths, a coupler

coupling the photodetectors of the long and short loop lightwave delay paths to the first amplifier, and a fiber stretcher in each of the short loop lightwave delay path and the long loop lightwave delay path. The photonic oscillator further includes a first amplifier coupled between the photodetector and the optical modulator, a phase shifter coupled between the first amplifier and the bandpass filter, a bandpass filter coupled between the first amplifier and the optical modulator, and a control circuit responsive to a frequency lock loop circuit which is capable of adjusting a bias power to the first amplifier so as to shift a frequency of an output of the photonic oscillator. Dependent Claims 37-38 are each patentable over Yao et al. and the other prior art, taken in alone or in combination, because the respective claim as a whole contains further patentable limitation(s).

Therefore, each claim as whole, including all limitations, were considered patentable over Yao et al. and the prior art, taken alone or in combination.

Dated: January 4, 2006

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Christopher R. Balzan", written over a horizontal line.

Christopher R. Balzan  
Attorney for Applicant  
Reg. No.: 40,901

AAGAARD & BALZAN, LLP  
674 County Square Drive, Suite 105  
Ventura, CA 93003  
(805) 658-1945 phone  
(805) 654-9984 fax